

Claims

1. Marking device for encoding metallic workpieces with two-dimensional matrix codes, with a striking tool (12) which can be driven by an electromagnet arrangement (11) to form the code recesses, wherein the working movement takes place against the force of a return device (13), with a positioning device displaceable in the two axes (x, y) vertically to the striking direction (z) for positioning the striking tool (12) in the desired code positions, and with an electronic control unit (16, 16a) for moving the striking tool (12), which has means (17) for setting a higher current (I_1) for the electromagnet arrangement (11) during a first acceleration phase of the striking tool (12) and a lower current (I_2) during the subsequent moving phase until impinging on the workpiece (14).
2. Marking device according to Claim 1, characterized in that a time control (24) for presetting the acceleration time is provided.
3. Marking device according to Claim 1, characterized in that a position control (19) for switchover from the acceleration phase to the subsequent moving phase is provided.
4. Marking device according to Claim 3, characterized in that a position measuring device (20), in particular a position sensor, is provided for controlling switchover in at least one position (S_0) to be preset.
5. Marking device according to Claim 4, characterized in that the position measuring device (20) is also adapted for detecting the length of the entire moving distance of the striking tool (12) and/or its distance to the workpiece (14).
6. Marking device according to Claim 5, characterized in that the position measuring device (20) is operatively connected with means for determining the tolerance-affected distance of the marking head (10) from the workpiece surface in a pre-run before marking and for compensating the control parameters by means of a corresponding correction.

7. Marking device according to Claim 5, characterized in that the position measuring device (20) is operatively connected with means for determining the tolerance-affected distance of the marking head (10) from the workpiece surface in a pre-run before marking and for compensating the control parameters by means of a height adjusting device.

8. Marking device according to one of the preceding claims, characterized in that the current is controlled in open-loop or closed-loop control over the entire moving distance, depending on the position or time.

9. Marking device according to one of the preceding claims, characterized in that means (21, 22) for switching off the current when the impinging position is reached are provided.

10. Marking device according to Claim 9, characterized in that the means (21, 22) are adapted to recognize a corresponding rise in current when the impinging position is reached.

11. Marking device according to one of the preceding claims, characterized in that means for creating a braking current before the rest position is reached at the return motion of the striking tool (12) are provided.

12. Marking device according to Claim 11, characterized in that the means for creating a braking current are controlled by time and/or position.

13. Marking device according to one of the preceding claims, characterized in that the control unit (16, 16a) is interposed between a main controller (15) for the marking device and the electromagnet arrangement (11) and is devised preferably as a separate module.

14. Marking device according to one of the preceding claims, characterized in that means for increasing the higher current (I_1) in the acceleration phase during the first working stroke are provided.